

WHAT IS CLAIMED IS:

1. An information processor for generating printing data to be transmitted to a printer comprising:

5 a spooler for converting data to be printed which is generated by an application into a print job and temporarily storing the print job;

10 a composition instructing unit for instructing a plurality of print jobs corresponding to the different data to be printed to be composed together so as to generate one composed job; and

15 a setting unifier for analyzing the print setting information of a plurality of print jobs when the composition instructing unit instructs the plurality of print jobs to be composed together so as to obtain one composed job, and generating print setting information for the composed job in which information that can be respectively merely set to one print job is unified.

20 2. The information processor according to claim 1, wherein said setting unifier further includes a recognizing unit for recognizing to select whether the settings are unified or the print jobs are not composed together when the print setting information of a
25 plurality of print jobs to be composed together is respectively analyzed and the information which can be set only to one print job is mutually different.

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8. The information processor according to claim 1, further comprising a job cancelling unit for operating a plurality of print jobs in said composed job to cancel a specific print job.

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9. The information processor according to claim 1, further comprising a job divider for dividing said composed job into a plurality of print jobs before they are joined together.

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10. The information processor according to claim 1, further comprising a job duplicating unit for designating said print job or said composed job to prepare the duplication of the designated print job.

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11. The information processor according to claim 3, wherein said print job or said composed job further includes a setting initializing unit for returning the intermediate code format as the base of the job to an initial state upon preparation of the data.

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12. The information processor according to claim 1, further comprising a page editing unit for cancelling a page designated relative to a logical page in said print job or said composed job.

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13. The information processor according to claim

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3, further comprising a printing data generator for
generating the printing data to be transmitted to said
printer on the basis of the data of the intermediate
code format which is temporarily stored by said
5 spooler.

14. The information processor according to claim
13, further comprising:

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10 a description instruction generator for converting
the data of the intermediate code format temporarily
stored by said spooler into a description instruction
which can be interpreted by the description unit of an
OS and outputting the converted data;

15 a print instruction allocator for sending a print
instruction received through the description unit of
the OS from said application to said intermediate data
converter and sending the print instruction received
through the description unit of the OS from the
description instruction generator to said printing data
20 generator.

15. The information processor according to claim
14, wherein said description instruction is a GDI
function, said print instruction is a DDI function and
25 said printing data is a printer language.

16. The information processor according to claim

1, further comprising a composed job information generator for generating the layout information of said composed job on the basis of the layout information of a plurality of print jobs when said composition

5 instructing unit instructs a plurality of print jobs to be composed together so as to have one composed job.

17. The information processor according to claim 16, wherein said composed job information generator
10 generates the layout information of the composed job for each physical page on the basis of the layout information of a plurality of print jobs.

18. The information processor according to claim
15 16, further comprising a layout unification instructing unit for instructing the layout information of said composed job to be unified, wherein said composed job information generator unifies the layout information of said composed job by all the physical pages when said
20 layout unification instructing unit instructs the layout information to be unified.

19. The information processor according to claim 18, wherein said composed job information generator
25 unifies the layout information of said composed job to prescribed layout information.

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arranging the logical pages on back sides when the back
sides of the same physical pages are unoccupied, and no
instruction for a close arrangement by constantly
changing the physical pages when original print jobs
5 are different.

24. A method for generating printing data to be
transmitted to a printer comprising:

10 a spooling step of converting data to be printed
which is generated by an application into a print job
and temporarily storing the print job;

15 a composition instructing step of instructing a
plurality of print jobs corresponding to said different
data to be printed to be composed together so as to
generate one composed job; and

20 a setting unifying step of analyzing the print
setting information of a plurality of print jobs when,
in the composition instructing step, the plurality of
print jobs are instructed to be composed together so as
to obtain one composed job, and generating print
setting information for the composed job in which
information that can be respectively merely set to one
print job is unified.

25 25. The method for generating printing data
according to claim 24, wherein said setting unifying
step further includes a recognizing step of recognizing

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to select whether the settings are unified or the print jobs are not composed together when the print setting information of a plurality of print jobs to be composed together is respectively analyzed and the information which can be set only to one print job is mutually different.

26. The method according to claim 24, wherein said spooling step converts said data to be printed into the print job of intermediate code format and temporarily stores the print job as a page description file by a page unit.

27. The method according to claim 26, wherein information for designating the page description files laid out on a physical page is added to the print setting information of said composed job.

28. The method according to claim 24, wherein said print setting information is temporarily stored as a print setting file of each print job.

29. The method according to claim 24, further comprising a preview display controlling step of controlling a preview based on the print setting information of said print jobs or said composed job to be displayed.

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30. The method according to claim 24, further comprising an order controlling step of operating a plurality of print jobs in the composed job to reshuffle the order of the print jobs.

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31. The method according to claim 24, further comprising a job cancelling step of operating a plurality of print jobs in said composed job to cancel a specific print job.

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32. The method according to claim 24, further comprising a job dividing step of dividing said composed job into a plurality of print jobs before they are joined together.

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33. The method according to claim 24, further comprising a job duplicating step of designating said print job or said composed job to prepare the duplication of the designated print job.

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34. The method according to claim 26, wherein said print job or said composed job further includes a setting initializing step of returning the intermediate code format as the base of the job to an initial state upon preparation of the data on the basis of the print setting information.

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38. The method according to claim 37, wherein said description instruction is a GDI function, and said print instruction is a DDI function and said printing data is a printer language.

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39. The method according to claim 24, further comprising a composed job information generating step of generating the layout information of said composed job on the basis of the layout information of a plurality of print jobs when said composition instructing step instructs a plurality of print jobs to be composed together so as to have one composed job.

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40. The method according to claim 39, wherein said composed job information generating step generates the layout information of said composed job for each physical page on the basis of the layout information of a plurality of print jobs.

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41. The method according to claim 39, further comprising a layout unification instructing step of instructing the layout information of said composed job to be unified, wherein said composed job information generating step unifies the layout information of the composed job by all the physical pages when said layout unification instructing step instructs the layout information to be unified.

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42. The method according to claim 41, wherein said composed job information generating step unifies the layout information of said composed job to prescribed layout information.

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43. The method according to claim 41, wherein said composed job information generating step unifies the layout information of said composed job to the layout information of the print job corresponding to a first physical page in said composed job.

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44. The method according to claim 39, wherein said composed job information generating step counts the number of logical pages of said composed job and determines the arrangement of the logical pages in the physical pages for each physical page on the basis of the layout information.

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45. The method according to claim 44, further comprising a close arrangement instructing step of instructing the logical pages of each print job to be closely arranged in said composed job, wherein said composed job information generating step determines to closely arrange the logical pages in the physical pages when a close arrangement is instructed by said close arrangement instructing step.

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46. The method according to claim 45, wherein
said close arrangement instructing step performs any
one of a close arrangement for closely arranging the
logical pages on the same physical pages, a back side
5 close arrangement instruction for compactly arranging
the logical pages on back sides when the back sides of
the same physical pages are unoccupied, and no
instruction for a close arrangement by constantly
changing the physical pages when original print jobs
10 are different.

47. A computer-readable memory medium which
stores a printing data generating program for
generating printing data to be transmitted to a
15 printer, the program comprising:

a spool program code for converting data to be
printed which is generated by an application into a
print job and temporarily storing the print job;

20 a composition instructing program code for
instructing a plurality of print jobs corresponding to
the different data to be printed to be composed
together so as to generate one composed job; and

a setting unifying program code for analyzing the
print setting information of a plurality of print jobs
25 when the composition instructing program code instructs
the plurality of print jobs to be composed together so
as to obtain one composed job, and generating print

setting information for the composed job in which information that can be respectively merely set to one print job is unified.

5 48. The memory medium according to claim 47,
wherein said setting unifying program code further
includes a recognizing step of recognizing to select
whether the settings are unified or the print jobs are
not composed together when the print setting
10 information of a plurality of print jobs to be composed
together is respectively analyzed and the information
which can be set only to one print job is mutually
different.

15 49. The memory medium according to claim 47,
wherein said spool program code converts said data to
be printed into the print job of intermediate code
format and temporarily stores the print job as a page
description file by a page unit.

20 50. The memory medium according to claim 49,
wherein information for designating the page
description files laid out on a physical page is added
to the print setting information of said composed job.

25 51. The memory medium according to claim 47,
herein said print setting information is temporarily

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stored as a print setting file of each print job.

52. The memory medium according to claim 47,
further comprising a preview display controlling step
5 of controlling a preview based on the print setting
information of said print jobs or said composed job to
be displayed.

53. The memory medium according to claim 47,
10 further comprising an order controlling step of
operating a plurality of print jobs in the composed job
to reshuffle the order of the print jobs.

54. The memory medium according to claim 47,
15 further comprising a job cancelling step of operating a
plurality of print jobs in said composed job to cancel
a specific print job.

55. The memory medium according to claim 47,
20 further comprising a job dividing step of dividing said
composed job into a plurality of print jobs before they
are joined together.

56. The memory medium according to claim 47,
25 further comprising a job duplicating step of
designating said print job or said composed job to
prepare the duplication of the designated print job.

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57. The memory medium according to claim 49,
wherein said print job or said composed job further
includes a setting initializing step of returning the
intermediate code format as the base of the job to an
5 initial state upon preparation of the data on the basis
of the print setting information.

58. The memory medium according to claim 47,
further comprising a page editing step of cancelling a
10 page designated relative to a logical page in said
print job or said composed job.

59. The memory medium according to claim 49,
further comprising a printing data generating step of
15 generating the printing data to be transmitted to said
printer on the basis of the data of the intermediate
code format which is temporarily stored in said spool
program code.

20 60. The memory medium according to claim 59,
further comprising:

a description instruction generating step of
converting the data of the intermediate code format
temporarily stored in said spool program code into a
25 description instruction which can be interpreted in the
description step of an OS and outputting the converted
data; and

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a print instruction allocating step of sending a
print instruction received through the description step
of the OS from said application to said intermediate
data converting step and sending the print instruction
5 received through the description step of the OS from
said description instruction generating step to said
printing data generating step.

61. The memory medium according to claim 60,
10 wherein said description instruction is a GDI function,
and said print instruction is a DDI function and said
printing data is a printer language.

62. The memory medium according to claim 47,
15 further comprising a composed job information
generating step of generating the layout information of
said composed job on the basis of the layout
information of a plurality of print jobs when said
composition instructing step instructs a plurality of
20 print jobs to be composed together so as to have one
composed job.

63. The memory medium according to claim 62,
wherein said composed job information generating step
25 generates the layout information of said composed job
for each physical page on the basis of the layout
information of a plurality of print jobs.

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64. The memory medium according to claim 62,
further comprising a layout unification instructing
step of instructing the layout information of said
composed job to be unified, wherein said composed job
information generating step unifies the layout
information of the composed job by all the physical
pages when said layout unification instructing step
instructs the layout information to be unified.

65. The memory medium according to claim 64,
wherein said composed job information generating step
unifies the layout information of said composed job to
prescribed layout information.

66. The memory medium according to claim 64,
wherein said composed job information generating step
unifies the layout information of said composed job to
the layout information of the print job corresponding
to a first physical page in said composed job.

67. The memory medium according to claim 62,
wherein said composed job information generating step
counts the number of logical pages of said composed job
and determines the arrangement of the logical pages in
the physical pages for each physical page on the basis
of the layout information.

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68. The memory medium according to claim 67,
further comprising a close arrangement instructing step
of instructing the logical pages of each print job to
be closely arranged in said composed job, wherein said
5 composed job information generating step determines to
closely arrange the logical pages in the physical pages
when a close arrangement is instructed by said close
arrangement instructing step.

10 69. The memory medium according to claim 45,
wherein said close arrangement instructing step
performs any one of a close arrangement for closely
arranging the logical pages on the same physical pages,
a back side close arrangement instruction for compactly
15 arranging the logical pages on back sides when the back
sides of the same physical pages are unoccupied, and no
instruction for a close arrangement by constantly
changing the physical pages when original print jobs
are different.

20 70. A printing data generating program for
generating printing data to be transmitted to a
printer, said program comprising:

25 a spool program code for converting data to be
printed which is generated by an application into a
print job and temporarily storing the print job;

a composition instructing program code for

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5 a setting unifying program code for analyzing the
print setting information of a plurality of print jobs
when the composition instructing program code instructs
the plurality of print jobs to be composed together so
as to obtain one composed job, and generating print
setting information for the composed job in which
10 information that can be respectively merely set to one
print job is unified.

72. The printing data generating program according to claim 70, wherein said spool program code converts said data to be printed into the print job of intermediate code format and temporarily stores the print job as a page description file by a page unit.

73. The printing data generating program according to claim 72, wherein information for designating the page description files laid out on a physical page is added to the print setting information of said composed job.

74. The printing data generating program according to claim 70, herein said print setting information is temporarily stored as a print setting file of each print job.

75. The printing data generating program according to claim 70, further comprising a preview display controlling step of controlling a preview based on the print setting information of said print jobs or said composed job to be displayed.

76. The printing data generating program according to claim 70, further comprising an order controlling step of operating a plurality of print jobs in the composed job to reshuffle the order of the print jobs.

77. The printing data generating program according to claim 70, further comprising a job cancelling step of operating a plurality of print jobs in said composed job to cancel a specific print job.

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78. The printing data generating program according to claim 70, further comprising a job dividing step of dividing said composed job into a plurality of print jobs before they are joined together.

79. The printing data generating program according to claim 70, further comprising a job duplicating step of designating said print job or said composed job to prepare the duplication of the designated print job.

80. The printing data generating program according to claim 72, wherein said print job or said composed job further includes a setting initializing step of returning the intermediate code format as the base of the job to an initial state upon preparation of the data on the basis of the print setting information.

81. The printing data generating program according to claim 70, further comprising a page editing step of cancelling a page designated relative to a logical page in said print job or said composed job.

82. The printing data generating program according to claim 72, further comprising a printing

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data generating step of generating the printing data to be transmitted to said printer on the basis of the data of the intermediate code format which is temporarily stored in said spool program code.

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83. The printing data generating program according to claim 82, further comprising:

a description instruction generating step of converting the data of the intermediate code format temporarily stored in said spool program code into a description instruction which can be interpreted in the description step of an OS and outputting the converted data; and

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a print instruction allocating step of sending a print instruction received through the description step of the OS from said application to said intermediate data converting step and sending the print instruction received through the description step of the OS from said description instruction generating step to said printing data generating step.

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84. The printing data generating program according to claim 83, wherein said description instruction is a GDI function, and said print instruction is a DDI function and said printing data is a printer language.

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85. The printing data generating program according to claim 70, further comprising a composed job information generating step of generating the layout information of said composed job on the basis of the layout information of a plurality of print jobs when said composition instructing step instructs a plurality of print jobs to be composed together so as to have one composed job.

86. The printing data generating program according to claim 85, wherein said composed job information generating step generates the layout information of said composed job for each physical page on the basis of the layout information of a plurality of print jobs.

87. The printing data generating program according to claim 85, further comprising a layout unification instructing step of instructing the layout information of said composed job to be unified, wherein said composed job information generating step unifies the layout information of the composed job by all the physical pages when said layout unification instructing step instructs the layout information to be unified.

88. The printing data generating program according to claim 87, wherein said composed job

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information generating step unifies the layout information of said composed job to prescribed layout information.

5 89. The printing data generating program according to claim 87, wherein said composed job information generating step unifies the layout information of said composed job to the layout information of the print job corresponding to a first
10 physical page in said composed job.

 90. The printing data generating program according to claim 75, wherein said composed job information generating step counts the number of
15 logical pages of said composed job and determines the arrangement of the logical pages in the physical pages for each physical page on the basis of the layout information.

20 91. The printing data generating program according to claim 90, further comprising a close arrangement instructing step of instructing the logical pages of each print job to be closely arranged in said composed job, wherein said composed job information
25 generating step determines to closely arrange the logical pages in the physical pages when a close arrangement is instructed by said close arrangement

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instructing step.

92. The printing data generating program
according to claim 91, wherein said close arrangement
5 instructing step performs any one of a close
arrangement for closely arranging the logical pages on
the same physical pages, a back side close arrangement
instruction for compactly arranging the logical pages
on back sides when the back sides of the same physical
10 pages are unoccupied, and no instruction for a close
arrangement by constantly changing the physical pages
when original print jobs are different.

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